

PLANKING - RIB CONSTRUCTION

P55

Coat one side of the first segment with thin glue and place on the outline associated with it. Be sure that the butt joints have sufficient glue on them. Continue until all of the segments of the first layer are glued to the tracing with the butt joints pressed tightly together. The second layer of segments is done in the same manner using the dotted outlines as a guide. Spread white glue on both surfaces and butt joints lining them up and pressing the butt joints together. Place another piece of waxed paper on top, and cover with a flat board with a weight pressing down on it. The waxed paper prevents the face of your tracing and the back of the frame from sticking to anything.

Allow the frame plenty of time to set (three or four hours) then cut the outside outline out on a scroll saw as close to the line as possible, but leaving the line showing. Now sand the edge square to the line on a disk sander. The notch riding on the keel is very critical, and should be square and on center.

Before making the inside cut on the scroll saw the segments should be doweled together. I use number 68 size dowels inserted between all of the butt joints. This strengthens the rib and prevents any shearing between segments.

After the rib is all cut out and sanded square on the edges the bevels must be filed. Mark the outside edge of the rib with a soft pencil, and file to the inner dotted line without removing the pencil mark on the outer edge. This will prevent over filing. The inner bevel is done in the same manner.

Keep in mind that the widest outer edge of the rib is always closest to the midship frame, and the widest outside edge of the inner part of the frame is always farthest away from the midship frame. Now transfer the deck line, wale lines, and bulwark height marks on the tracing onto the finished edges of the rib; use a small square for this. The tracing paper can now be removed, and all rib surfaces sanded smooth. If you are leaving the ribs exposed give the sides only a couple of coats of Delft. It does a neater an easier job than trying to paint between the ribs later on.

Mount the frames on the keel with glue. Align them with the notched water line board before the glue sets up. When all the frames are in place fasten the wales to the ribs using the marks you have made for the wales on the edges of the frames. The jig will support the ribs during this operation if wedges are inserted into the notches behind each rib making them flush with the outer edge of the water line jig board. Another method that I use is to glue small blocks of wood to the surface of the water line board, and push them against the inside of the rib. They can easily be removed when the wales are secured to the frames with dowels and glue, and they wont loosen up as wedges may do while fastening the wales.

Now remove the ship from the jig, and place the keelson on top of the rib floors. Use glue and dowel through the keelson, rib, and into the keel. Glue and dowel the deck beam shelves, and the bilge-stringers into place. The ship's framework is now secure and ready for further planking and framing.

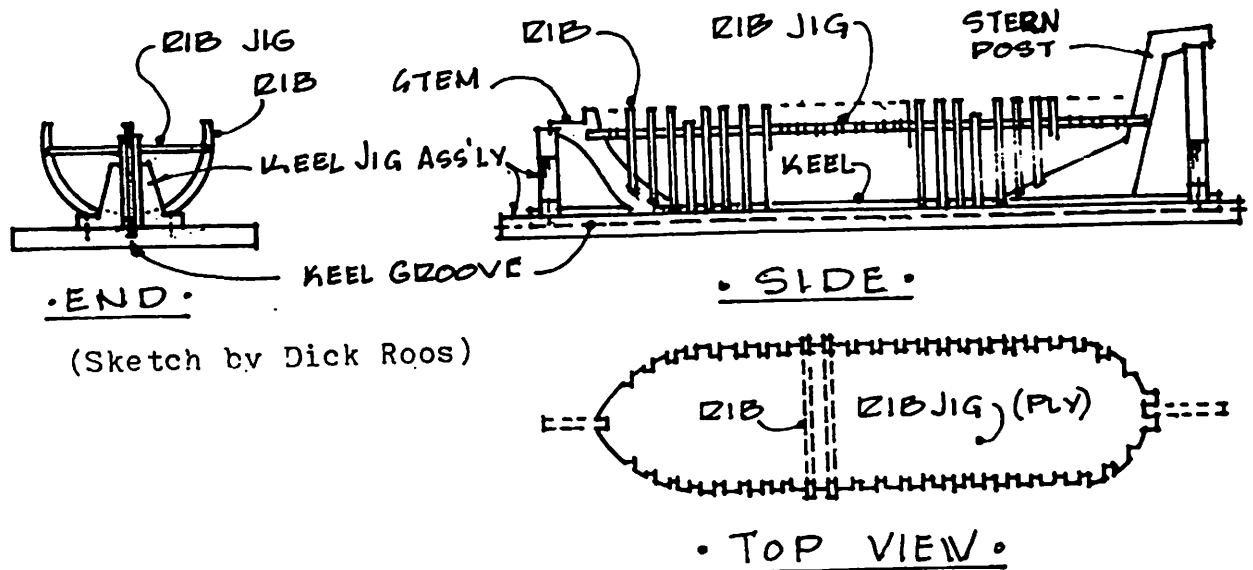
The jig with the water line board removed may still be used during further construction.

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"Confessions of a Ship Modeler", or,--

FRAME OR RIB CONSTRUCTION FOR PLANK ON FRAME MODELS
AND FRAME JIG LAYOUT.

By Henry Bridenbecker. (Part 2 of 2 parts)



You are now ready to commence frame construction. Stack all frame tracings that fall on or adjacent to station lines. Select drawings that conform to similar widths, not to exceed a maximum of $\frac{3}{8}$ of an inch - about ten frames fore and aft of the midship frame will fall in one group. Make a single tracing of the widest and narrowest outlines which will let you determine the width of the wooden stock needed, i.e. about $\frac{1}{4}$ of an inch. The stock should be cut out exactly one half the thickness of the frames; $\frac{1}{8}$ " for $\frac{1}{4}$ " frame. Cut out cardboard strips $\frac{3}{4}$ " wide, and lay them on the drawing in such a way that the wood grain will follow the curve of the ribs. After the first run is laid out and marked on the drawing out more cardboard strips to overlap the first run making sure that the butt joints will fall half way between the butt joints of the first run - use dotted lines to identify the second run. Trial and error will find the best lay out. Be sure each strip covers the outline of the composite rib tracing for the twenty or so ribs. Now cut out wooden strips from the $\frac{1}{8}$ " by $\frac{3}{4}$ " stock to match the lay out on the drawing, and number each segment. I use roman numerals for the first set, i.e., I II III IV and I x, II x, III x, IV x, for port and starboard, and regular numbers 1, 2, 3, 4, and 1x, 2x, 3x, 4x, for port and starboard on the second run. This will prevent them from getting mixed up. After the wooden segments have been cut out and marked lay them out on the composite rib drawing to be sure they fit together; the angles must be true or the butt joints won't meet and the frame will be out of line. Use these segments you have made as patterns to cut out all parts needed for twenty frames.

Place one of the tracings pencil side down on a piece of waxed paper. Tape it securely to a flat surface to prevent the tracing from creeping. Now outline each frame segment on the back of the drawing using solid and dotted lines to identify the two layers. Extend the butt joint lines so they can be used to line up each segment. Be sure that the segments completely cover the outline of the frame tracing.